

WHAT IS CLAIMED IS:

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1. A structured document search method for searching a structured document database, comprising:

5 accepting a search request in the form of a logical structured document;

analyzing the accepted search request for generating a search graph;

10 generating a search plan indicating a search processing procedure for said structured document database from said search graph, by using index information concerning actual data in said structured document database; and

acquiring search results satisfying said search request by executing said search plan.

15 2. A structured document search method according to claim 1, wherein, in the generation of said search plan, an optimal search plan is generated by going round said search graph, by using effectively said index information.

20 3. A structured document search method according to claim 2, wherein the method goes round said search graph based on a strategy to evaluate preferentially to the evaluatable partial graph in said search graph.

25 4. A structured document search method according to claim 1, wherein the search plan is executed after the completion of whole the generation of said search plan.

5. A structured document search method according to claim 1, wherein generation and execution of said search plan are performed alternately.

5 6. A structured document search method according to claim 1, wherein said structured document database includes a hierarchical structure concerning element name and element value;

10 said search request includes search conditions concerning said element name and said element value; and

15 said index information includes at least one of data creation index including information for specifying said element value creation position in said structured document database and element name occurrence index including information for specifying said element name creation position in said structured document database.

20 7. A structured document search method according to claim 6, wherein said element name occurrence index includes information indicating said element name creation position by a parent element one rank higher in hierarchy of the partial structure where said element name is generated.

25 8. A structured document search method according to claim 2, wherein in the generation of said search plan, said search plan is generated by:

selecting a plan generation rule, based on a plan

generation rule base where a plurality of plan  
generation rules including information indicating rule  
application conditions and information indicating the  
search processing contents to compose said search plan  
5 are registered, applying the plan generation rule to  
the element of said search graph, and deciding a search  
processing included in the plan generation rule as one  
search processing constituting said search plan; and  
repeating selection and application of the plan  
10 generation rule and decision of the following search  
processing in said search plan, concerning said search  
graph element influenced by the results of application  
of said plan generation rule.

9. A structured document search method according  
15 to claim 8, wherein cost information decided by  
considering said index information is added to said  
plan generation rule; and

the applicable plan generation rule is selected  
dynamically by taking account of said cost information.

20 10. A structured document search method according  
to claim 8, wherein said plan generation rule can be  
arbitrarily registered or deleted in said plan  
generation rule base.

25 11. A structured document search method according  
to claim 1, wherein said search graph is generated  
based on the syntax analysis results of the description  
of said search request, in the generation of said

Search graph.

12. A structured document search apparatus for searching based on a search request including a document logical structure with respect to a structured document database having the logical structure,  
5 comprising:

a search graph generating section configured to generate a search graph including the document structure information based on said search request;

10 a search plan generating section configured to generate a search plan indicating the search processing procedure for said structured document database from said search graph, by using index information concerning the actual data in said structured document  
15 database; and

a search executing section configured to acquire search results satisfying said search request by executing said search plan.

13. A computer readable recording medium recording  
20 a program for searching based on a search request including a document logical structure with respect to a structured document database having the logical structure, wherein the program comprises the steps of:

25 instruction section configured to cause a computer to generate a search graph including the document structure information based on said search request;

instruction section configured to cause a computer

to generate a search plan indicating the search processing procedure for said structured document database, from said search graph, by using index information concerning the actual data in said structured document database; and

instruction section configured to cause a computer to acquire search results satisfying said search request, by executing said search plan taking said structured document database as search object.

14. A structured document search system comprising:

a logical structured document database containing an actual data;

an index information storing section configured to store index information concerning the actual data in said logical structured document database;

a search request accepting section configured to accept a search request from outside;

a search graph generating section configured to generate a search graph, based on said search request;

a search plan generating section configured to generate a search plan indicating a search processing procedure for said structured document database, from said search graph, by using index information concerning the actual data in said logical structured document database; and

a search plan executing section configured to

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